Boeing Comments on WAC 173-303
11/17/2005

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Dear Mr. Gallagher:

The Boeing Company provides the following comments on the draft Persistent Bioaccumulative and Toxic rule WAC 173-303. These comments are in addition to those provided in previous PBT draft and pre-draft rules as well as comments and discussion in the PBDE stakeholder process. The development of the PBT rule is an integral aspect of the range of issues covered in all these venues and those previous comments should be taken into consideration. We have also included a CD containing scientific documentation on the Deca polybrominated diphenyl ether for inclusion in the official record. A substantial portion of this CD's data has been available to Ecology staff and no additional specific response is required.

The Boeing Company acknowledges and supports the comments provided by the Association of Washington Business, ALKYLPHENOLS & ETHOXYLATES RESEARCH COUNCIL, the Bromine Science and Environmental Forum , Northwest Pulp and Paper Association, and American Chemical Council. We will not repeat most of these organizations discussions, data and findings in this document for sake of brevity. However, we request they be considered a portion of the official record for Boeing comments.

Our comments provided in the attachment will address four specific areas of concern with the PBT rule:

1) The use of the degradation concept to classify chemicals as PBTs .
2) Reliance on insufficient scientific information to identify materials as PBTs
3) Use of independent science panels to evaluate and designate PBTs
4) . The need to employ a risk based system in populating the PBT list

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The comments provided here-in will increase the public and business perception that the development of a PBT rule and included PBT listing were conducted in a transparent manner. A transparent manner utilizing the best available science in a fair and impartial manner. The PBT rule is a starting point for addressing the most dangerous chemicals in our society; but, it should not over-reach by including chemicals that need further risk analysis. Our comments will suggest an approach by which the agency can step back from its current PBT listing to a more defensible list. Then additional chemicals can be added on a combination of risk

analysis and chemical characteristics using the process incorporated into the rule. The Boeing Company has special concern that PBT materials essential to the safety of our products remain available for use in the State of Washington.

Please contact the undersigned or Mel Oleson 253 988-0378 for any questions.

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attachments:
1) Comments on WAC 173-303 Persistent Bioaccumulative and Toxics
2) PBDE data library (CD)

1) The use of the degradation concept to classify chemicals as PBTs

The degradation concept included in this rule {173-3330320 (3) }establishes a process by which non-PBT chemicals may be evaluated in context of a chemical action plan if a direct degredation association can be shown between the chemicals. Ecology's implementation of this provision violates the basic principle underlying this section that a substance be designated as a PBT based on its own chemical P-B & T characteristics; not that of its degradation products. We suggest that the application of this rule section be re-evaluated where it was applied to selecting chemicals for the PBT listing. Only those materials that are themselves PBTs should be listed. During the PBT action plan process would issues relating to the parent material be addressed. The designation of deca-bde as a PBT due to its alleged degradation into possibly more toxic octa-bde and penta-bde formulations is a case in point. The Deca-bde has no toxic properties that would justify its listing as a PBT. This is borne out by extensive research conducted world wide. Special note is made of the decision by the European Union to not designate Deca-bde as a PBT under its RoHs directive. This was subsequent to ten years of studies on the toxicity of Deca-bde and a supplemental study of the possible concerns over degradation products. The result of these ten years of studies was that risk to public health and the environment were negligible. This EU result illustrates the fallacy of attempting to "reverse engineer" a PBT designation to a parent chemical. The failure of the EU's scientific review of degradation products to identify Deca-bde as a PBT cast doubt on any proposed Ecology listing of any product due to degradation. Deca-bde and all other materials listed due to use of the degradation concept in the draft PBT rule should be removed subject to substantial, verifiable and impartial research.

2) Reliance on insufficient scientific information to identify materials as PBTs

The proper use of science in identifying and listing of chemicals for inclusion on the PBT listing is critical to the success of this process. A strong adherence to use of scientifically valid data is essential in selecting the relevant numbers for each aspect of persistence (P), bioaccumulation (B) and toxicity (C). The PBT rule properly emphasizes these concepts; however, in application problems occur in failing to clearly describe what is valid scientific data for use in the selection process. Through-out the PBT process and its allied PBDE stakeholder process the agency staff has placed high reliance on a few scientific studies that provided P, B or T numbers that supported PBT designation This reliance on a very limited data set is in direct conflict with the most basic principles of scientific investigation. These criteria are clearly stated in the comments from the ALKYLPHENOLS & ETHOXYLATES RESEARCH COUNCIL as follows: "The process of determining the quality of existing data is well established and takes into consideration three aspects - reliability, relevance and adequacy of the

data. These terms as defined by Klimisch et al. (1997)[1] are generally accepted in the scientific community as well by governmental authorities as follows.

- Reliability: The inherent quality of a test report or publication relating preferably to standardized methodology and the way the experimental procedure and results are described to give evidence of the clarity and plausibility of the findings. Reliability addresses the overall scientific integrity and validity of the information in a study;
- Relevance: The extent to which data and tests are appropriate for a particular hazard identification or risk characteristic; and,
- Adequacy: The usefulness of data for hazard/risk assessment purposes. "

.The current PBT listing has not been subjected to anything close to this necessary level of scientific rigor to demonstrate if a material is a PBT. In the initial concept of the PBT rule it was considered the EPA's PBT list and Octa/ Penta-BDEs were suitable candidates for immediate listing in the rule. Provisions were made for additional materials to be added by rule based on full and verifiable review of the science. This approach was considered reasonable in that the EPA listings had the full force of risk based analysis from the Federal government's substantial resources. Octa/Penta-bde were under a SNUR requirement by the US EPA implying a significant concern. The rule was to have specific provisions for addition (or deletions) to the list that could be justified based on additional Federal listings. Or, an alternative was for equally rigorous science study conducted under the auspices of State government. Studies that were presumably the result of a combination of multiple agencies, universities, NGO, business and public. This approach was abandoned by the WDOE in favor of a quick scrutiny of Persistence, Bioaccumulative and Toxic values from a limited data set identified in various study appendices. When these numbers were found in a study to exceed the PBT criteria the material was included in the PBT listing. A simple flow process flow analysis evaluating the number of chemicals listed in the year this rule has been under development with the very limited staff resources available to the agency indicates that a complete and valid review of the scientific data could not have been completed for each chemical. Supporting documentation lists studies; but not detailed analysis that agency personnel would have to rely on. A limited data set that has been seriously challenged on multiple occasions at PBT and PBDE stakeholder meetings. Data sets that may be fatally flawed in the key aspects of reliability, relevance or accuracy. Failing to meet even the minimum standards of due scientific diligence puts the agency at risk of being successfully challenged on multiple PBT listings. Recommend that the agency reconsider its PBT listing in context of the quality of supporting science. A return to the original limited listing

[1] Klimisch, H.J., Andreae, E., and Tillmann, U. (1997). A Systematic Approach for Evaluating the Quality of Experimental and Ecotoxicological Data. Reg. Tox. and Pharm., 25,1-5.

concept discussed above provides a rational and defensible baseline from which expansion is possible.

3) Use of independent science panels to evaluate and designate PBTs

Recommend that designation of any chemical, other than USEPA listings, to the PBT list be conducted by an independent scientific panel with participant equally selected by stakeholders. Employing an independent science panel will ensure all science is reviewed and incorporated into a PBT designation determination. This approach will address the insufficient quality and quantity of scientific information; is not a recurring significant problem with the PBT rule and PBT listing in particular. Employing an impartial science panel will remove the perception that designation under this rule lacks checks and balances crafted to preclude agency staff from selecting the science that best fits the desired outcome. Removing agency staff from the science review process will assure the public and business community that a full, fair and impartial analysis of the data has been conducted. This may garner support for developing and implementing a chemical action plan from all stakeholders; rather than resistance and challenges.

4) The need to employ a risk based system in populating the PBT list

The business community has asked the department to be objective in their listing of PBTs based on credible scientific information. The PBT rule has sufficient provisions to achieve this goal, once the concers in item 1, 2 and 3 above are addressed. Missing from the rule is a adjunct screening mechanism to ensure that agency and public resources are not exended on chemicals with minimal risk to the public or environment. Early discussions on this rule included a mechanism to conduct a preliminary risk screening of candidate PBT chemicals prior to in-depth study. This screening process had several valuable functions that should be reincorporated into the rule. First; the screening eliminated those chemicals not likely to be a problem in the State. Examples are:

- Chemicals not being used in the State.
- Chemicals used in quantities insufficient to create risk,
- Chemicals used in a controlled industrial environment subject to other controls
- Chemicals already banned under Federal law which are properly focused on cleanup programs.

The importance of this preliminary screening process goes to the heart of the original reason that the business community supported the PBT rulemaking- establishing certainty that PBTs would be selected on the merit of risk rather than politics du jour. Using a prescreening process establishes which chemicals need further risk analysis to support the activation of the process for adding a PBT to the list. This creates a de-facto prioritization process, based on risk, for which PBTs will be proposed and which chemical actions plans will be targeted first. The first plans being those for PBTs that present the greatest risk to the public and

environment. The current list has many chemicals listed simply on a P-B & T number pulled from scientific literature. This list does not provide the agency with sufficient guidance as to which chemical action plan to address first. Worse, the agency will find itself whipsawed by competing political agendas to pick a particular PBT for action from this chemical laundry list- without a supporting Washington risk analysis. Recommend that in conjunction with the action to re-evaluate the listing based on scientific credibility that the agencies consider creating a listing of PBT candidates consisting of the chemicals that fall off the current listing. A risk assessment provision should be reinstated in the PBT rule to facilitate the initial risk screening for these chemicals. Chemicals show a substantial risk of affecting Washington's people and environment can then be forwarded to the appropriate independent science panel for review and recommendation as to inclusion in the PBT listing and ultimately a chemical action plan.